

Saint Petersburg 2018: Innovations in Geosciences � Time for Breakthrough, 2018

A method for estimating the Azimuth of a fast shear wave from the acoustic log

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2018 EAGE. The estimation of the fast shear wave azimuth is the one of the main tasks of acoustic logging data processing in the anisotropic formation. There are several methods that allow such an assessment. In this paper, we propose a method for determining the direction of a fast and slow transverse wave, based on the rotation of wave patterns at a given angle and calculating their displacement relative to each other. This method can complement existing techniques or be used separately from them.

References

- [1] Tang, X.M. and Gheng, A. [2004] Quantitative Borehole Acoustic Methods, Volume 24 (Handbook of Geophysical Exploration: Seismic Exploration). Elsever.
- [2] Esmer soy, C., Kane, M., Boyd, A. and Denoo S. [1995] Fracture and stress evaluation using dipole-shear anisotropy logs. SPWLA 36 Annual Logging Symposium. 1-12.
- [3] Blanch J.O., Cheng A.C.H. and Varsamis G.L. [2002] A method to extract fast and slow shear wave velocities in an anisotropic formation. SEG International Exposition and 72 Annual Meeting.
- [4] Kozak, M., Kozak, M. and Williams J. [2014] Azimuthal shear wave anisotropy analysis, guided in time domain. SPWLA 55 Annual Logging Symposium. 1-12.
- [5] Alford, R.M. [1986] Shear data in the presence of azimuthal anisotropy. 56 Annual International Meeting, Society Exploration Geophysics. Extended Abstracts. 476-479.
- [6] Kosarev, V.E., Gorgun, V.A., Gorbachev, V.N., Mikheev, M.L. [2016] Accounting for the influence of logging tool decentering in acoustic logging data processing. Geomodel 2016-18th Science and Applied Research Conference on Oil and Gas Geological Exploration and Development.